

What is claimed is:

1. A clutch for use on an engine-assisted vehicle comprising:

A centrifugal clutch comprising a shoe drive assembly having a hub with an inner surface, and a drum assembly having a hub with an inner surface;

A rotatable input drive member fixedly mounted to the shoe drive assembly;

A rotatable output driven member fixedly mounted to the drum assembly;

A unidirectional clutch bearing having an inner surface and an outer surface, the outer surface of the bearing fixedly mounted to the inner surface of the hub of the shoe drive assembly;

A shaft fixedly mounted to the inner surface of the hub of the drum assembly, and fitted against the inner surface of said clutch bearing to allow rotation of the shaft in one direction only; and

A means for rotatably mounting said shaft on the vehicle.

2. The clutch of claim 1, wherein said clutch bearing is a drawn-cup, needle clutch bearing.

3. The clutch of claim 1, wherein the shaft is hollow and has an inner surface, and wherein the means for rotatably mounting said shaft on the vehicle comprises a second shaft having an outer surface with a diameter less than the diameter of the inner surface of the hollow shaft and wherein the second shaft is fixedly mounted to the vehicle and wherein the hollow shaft is rotatably supported concentrically around the second shaft by needle bearings installed between and in contact with the outer surface of the second shaft and the inner surface of the hollow shaft.

4. The clutch of claim 3, wherein the second shaft has two ends and the second shaft is fixedly mounted to the vehicle by supports between each end to the case of said engine.

5. A clutch for use on an engine-assisted vehicle comprising:

A centrifugal clutch comprising a shoe drive assembly having a hub with an inner surface, and a drum assembly having a hub with an inner surface;

A rotatable input drive member fixedly mounted to the shoe drive assembly;

A rotatable output driven member fixedly mounted to the drum assembly;

A unidirectional clutch bearing having an inner surface and an outer surface, the outer surface of the bearing fixedly mounted to the inner surface of the hub of the drum assembly;

A shaft fixedly mounted to the inner surface of the hub of the drum assembly, and fitted against the inner surface of said clutch bearing to allow rotation of the shaft in one direction only; and

A means for rotatably mounting said shaft on the vehicle.

6. The clutch of claim 5, wherein said clutch bearing is a drawn-cup, needle clutch bearing.
7. The clutch of claim 5, wherein the shaft is hollow and has an inner surface, and wherein the means for rotatably mounting said shaft on the vehicle comprises a second shaft having an outer surface with a diameter less than the diameter of the inner surface of the hollow shaft and wherein the second shaft is fixedly mounted to the vehicle and wherein the hollow shaft is rotatably supported concentrically around the second shaft by needle bearings installed between and in contact with the outer surface of the second shaft and the inner surface of the hollow shaft.
8. The clutch of claim 7, wherein the second shaft has two ends and the second shaft is fixedly mounted to the vehicle by supports between each end to the case of said engine.
9. An engine-assisted vehicle comprising:
  - A vehicle having at least one wheel;
  - An engine mounted on said vehicle;

A centrifugal clutch comprising a shoe drive assembly having a hub with an inner surface, and a drum assembly having a hub with an inner surface;

A rotatable input drive member fixedly mounted to the shoe drive assembly;

A rotatable output driven member fixedly mounted to the drum assembly;

A unidirectional clutch bearing having an inner surface and an outer surface, the outer surface of the bearing fixedly mounted to the inner surface of the hub of at least one of the shoe drive assembly and the drum assembly;

A shaft fixedly mounted to the inner surface of the hub of the drum assembly, and fitted against the inner surface of said clutch bearing to allow rotation of the shaft in one direction only; and

A means for rotatably mounting said shaft on the vehicle.

10. A method for retrofitting the clutch on an engine-assisted vehicle, comprising the steps of:

providing a centrifugal clutch comprising a shoe drive assembly having a hub with an inner surface, and a drum assembly having a hub with an inner surface;

providing a rotatable input drive member fixedly mounted to the shoe drive assembly;

providing a rotatable output driven member fixedly mounted to the drum assembly;

providing a unidirectional clutch bearing having an inner surface and an outer surface, the outer surface of the bearing fixedly mounted to the inner surface of the hub of at least one of the shoe drive assembly and the drum assembly;

providing a shaft fixedly mounted to the inner surface of the hub of the drum assembly, and fitted against the inner surface of said clutch bearing to allow rotation of the shaft in one direction only; and

providing a means for rotatably mounting said shaft on the vehicle.

11. The method of claim 10 wherein the vehicle has original production model components including an engine with a case, a clutch, belt and pulley components, four stanchions connected to the case of the engine, and a cover, further comprising the steps of:  
removing the original production model clutch and belt and pulley components from the vehicle;  
providing a left support arm and mounting it to the four stanchions connected to the case of the engine;  
rotating the original production model cover down and mounting it to the left support arm; and  
rotatably mounting a right support arm to the engine.